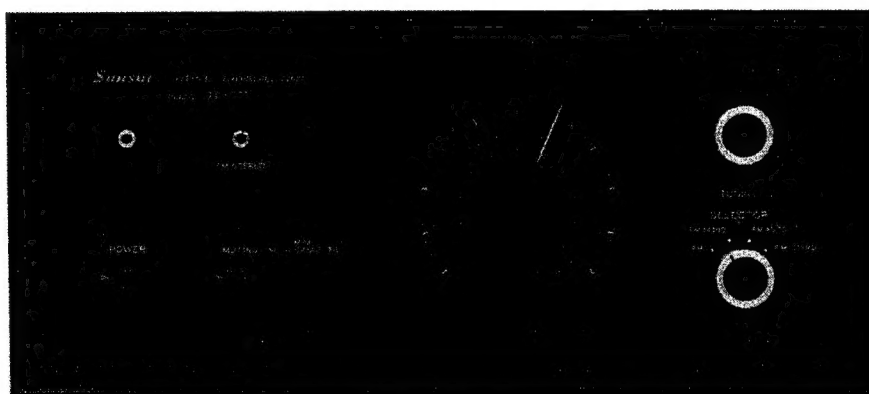


OPERATING INSTRUCTIONS & SERVICE MANUAL

SOLID-STATE AM/FM STEREOPHONIC TUNER

SANSUI *TU-777*



Sansui

SANSUI ELECTRIC COMPANY LIMITED

Thank you for purchasing the Sansui TU-777. In doing so, you have made a wise choice, one that promises you many delightful years of rich stereo enjoyment.

Model TU-777, incorporates the very latest in circuitry design, including a new FET front end for increased FM sensitivity, high stability and low distortion. It also features a dignified black faced front panel, symbolic of all Sansui high-grade sound equipment. Before leaving the Sansui factory, this model was tested, inspected and certified to be in perfect working order.

To keep it that way, it is imperative that you read the Operation section of this manual thoroughly before attempting to install and use the tuner. Since this manual also contains other helpful information on checking and servicing the tuner, and installing it in a custom-made cabinet, you will undoubtedly want to retain it for future reference. Again, our sincere thanks for purchasing the TU-777 and our best wishes for many years of trouble-free stereo enjoyment.

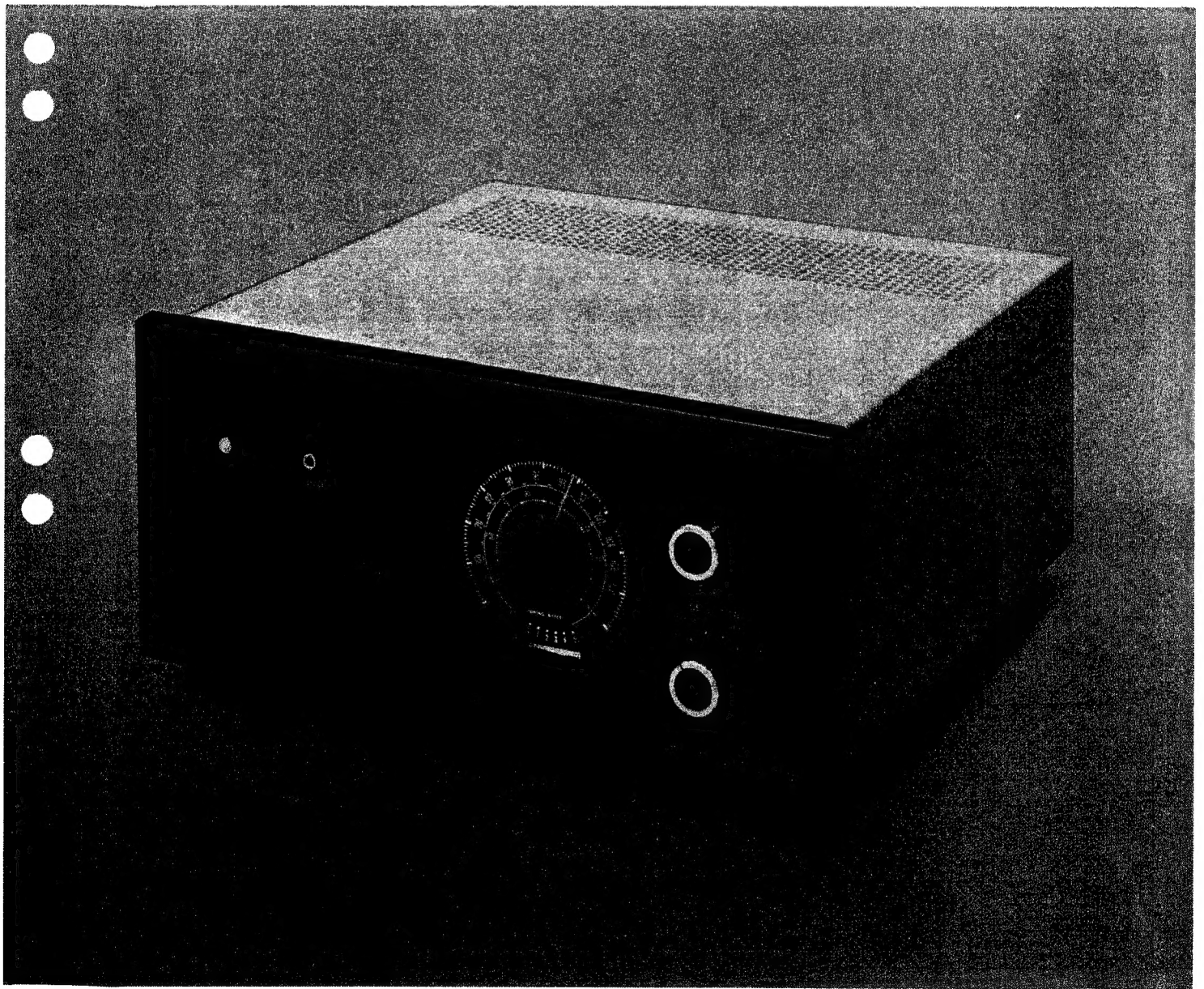
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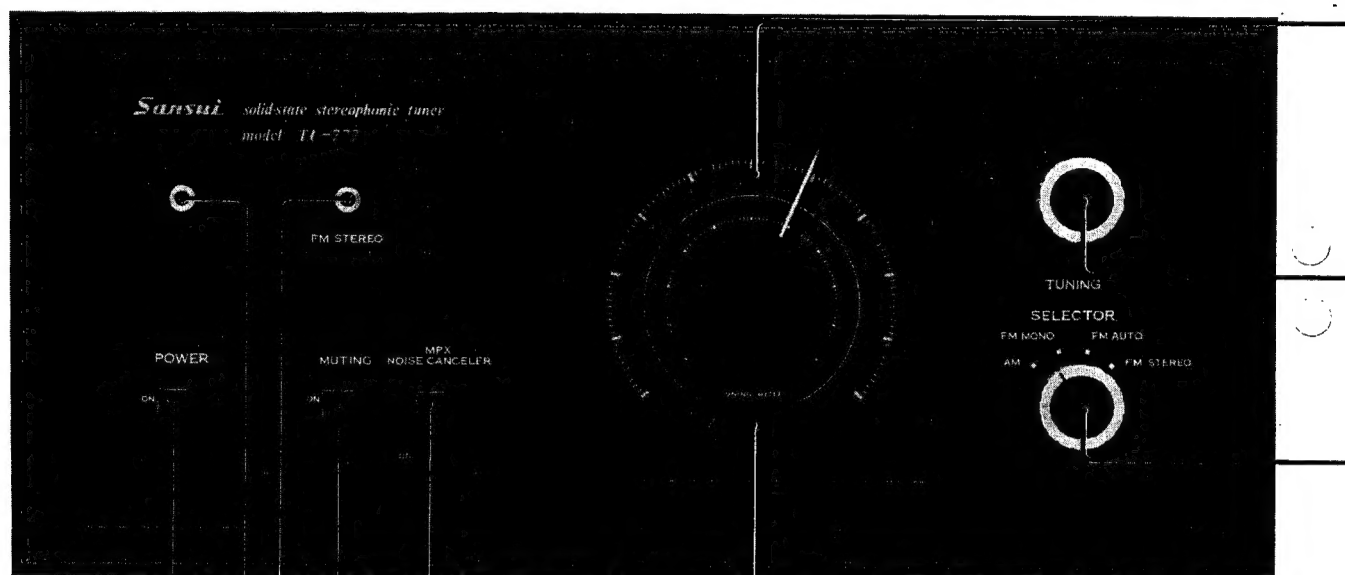
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SWITCHES & CONTROLS



Power Switch

The TU-777 goes on when POWER switch lever is set to ON position.

Muting Switch

Eliminates interstation tuning noise when selecting FM stations. It should be used sparingly, particularly if the tuner is located in a weak signal area. When you want to receive a weak station, this switch should be kept off.

FM Stereo Indicator

Illuminates whenever the tuning dial passes a station broadcasting an FM-MPX program. Does not light up for regular FM monaural broadcasts.

Power Indicator

Lights up whenever the tuner is receiving current. Remains lit as long as the Power Switch is On.

Dial Scales

For more convenient tuning, the TU-777 features a rounded dial window. The outside dial corresponds to the FM band, the inside dial to the AM band. Both bands share a single dial controlled by the Tuning Knob.

Tuning Knob

Use to select both AM and FM stations. Be sure to watch the Tuning Indicator when using this control for pinpoint station accuracy.

Function Selector

Allows the following selections to be made:

AM: for ordinary AM band broadcasts

FM MONO: for FM band monaural broadcasts

FM AUTO: for both monaural and stereophonic FM band broadcasts. Tuner switches automatically to either signal depending on what is being broadcast.

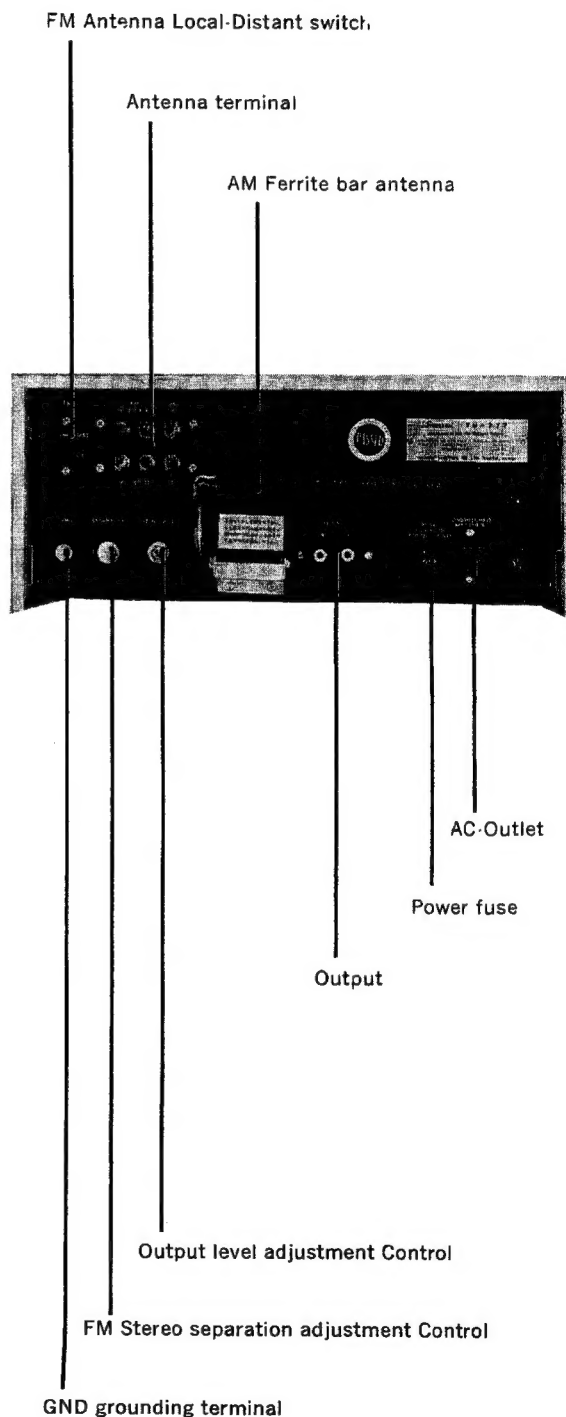
FM STEREO: for FM stereophonic broadcasts exclusively. Use if stereo signal is too weak and automatic switching is unstable in the FM AUTO position.

Tuning Indicator

Aids in pinpointing stations with the Tuning Knob. Stations are accurately tuned when the needle in this window swings as far to the right as possible, but not necessarily to "5". This movement may vary from station to station.

MPX Noise Canceler

Use to depress disturbing noise when listening to an FM stereo broadcast, but only if disturbing noise occurs. In weak signal areas it may sometimes impair the separation of stereo sounds. High frequency sounds are not affected when this switch is on.



ANTENNA CONNECTION AMPLIFIER CONNECTION

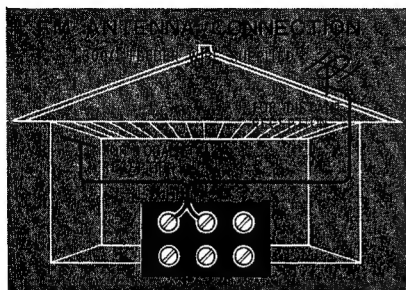


Fig. 1

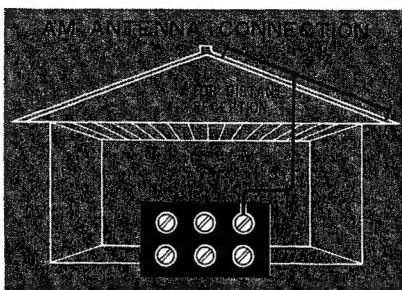


Fig. 2

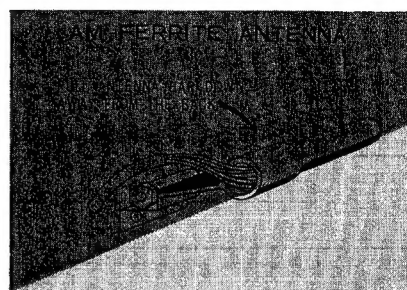


Fig. 3

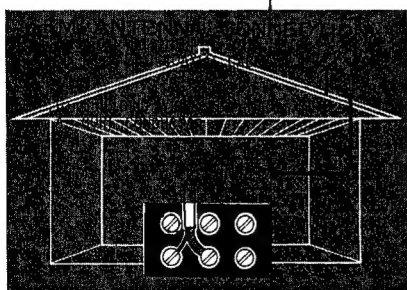
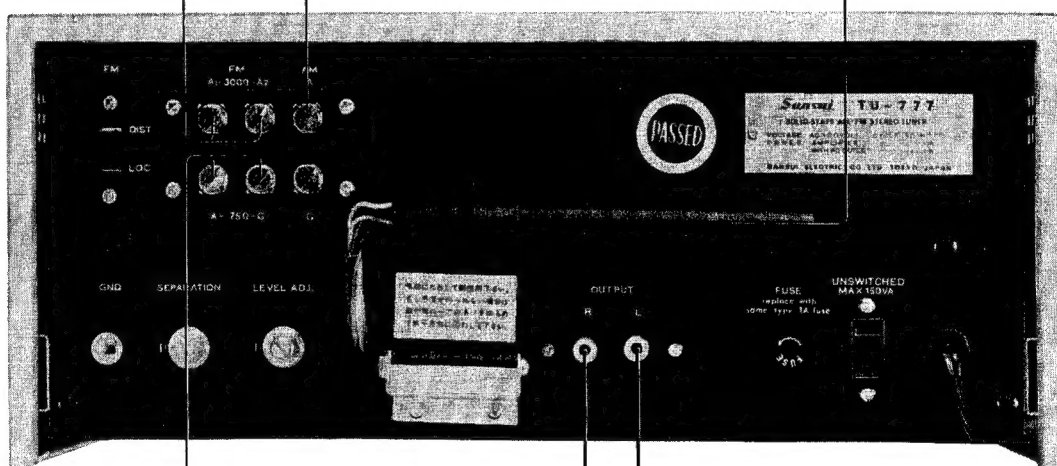
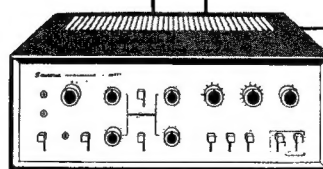
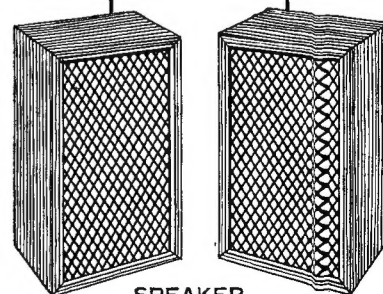


Fig. 4

RIGHT CHANNEL LEFT CHANNEL



CONTROL AMPLIFIER



SPEAKER

ANTENNA CONNECTION

The quality of reception that can be expected from the TU-777 is largely dependent on the correct positioning and use of antennas. The following procedures are recommended for noise-free reception.

Built-in AM Ferrite Bar Antenna

This sensitive antenna, located on the rear panel of the tuner, is usually adequate for strong AM reception. To use, pull it down and away from the back of the tuner until it comes to a stop halfway between the top and the bottom of the tuner.

Outdoor AM Antenna

In ferroconcrete buildings or in areas remote from the broadcasting station, the built-in ferrite bar antenna may be inadequate for strong AM reception. An outdoor antenna then becomes necessary. This can be accomplished by connecting the PVC wire accompanying the tuner to the antenna terminal marked AM-A on the back panel. Run this wire to an antenna that has been installed outdoors and away from the building. At the same time, the unit should be grounded. Position the outdoor antenna where reception is strongest while actually receiving a broadcast. And, for reasons of safety, be sure to attach a lightning arrester to the outdoor antenna.

FM Antenna

Where FM broadcasting stations are near and FM signals are strong, satisfactory FM reception can be obtained by using the feeder wire accompanying the tuner. Connect the feeder wire to the antenna terminals marked FM-A₁ and FM-A₂ on the rear panel, then fully extend the wire to a T shape and fix it to a wall or ceiling where it allows the strongest reception.

If the TU-777 is used in a thick-walled building or in an area remote from FM broadcasting stations, the indoor feeder wire antenna may be inadequate for strong signal reception. An outdoor antenna designed exclusively for FM reception should then

be installed.

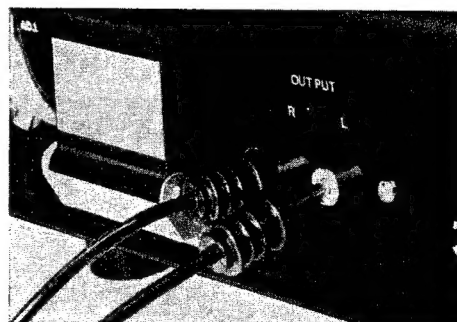
FM antennas of the 300 ohm balanced type and 75 ohm unbalanced type can be used with the TU-777. Connect either antenna to the matching antenna terminals on the rear of the tuner. The 300 ohm feeder wire should be connected to the FM antenna terminals A₁ and A₂ as in Fig. 1.

If a 75 ohm coaxial cable is used, connect the conductor to the FM antenna terminal A, and the shielding wire to the terminal G as in Fig. 4.

NOTE: FM sensitivity cannot be raised simply by lengthening the antenna. Adjust the antenna's height and direction while actually listening to a broadcast for the best reception.

AMPLIFIER CONNECTION

The TU-777 has been provided with two cords for quick and convenient connection to an amplifier. One is marked L and corresponds to the left stereo channel, the other is marked R and corresponds to the right. If the TU-777 is to be used with Sansui's matching AU-777 amplifier or any other Sansui amplifier, insert the pin plugs of each cord into the amplifier inputs labeled TUNER or AUX respectively. Be sure in either case, that cord L is inserted into the left input and R is inserted into the right input. If the TU-777 is to be used with an amplifier other than Sansui, the same procedures generally hold true, but it is best to check the manufacturer's instructions to be sure.



OPERATION

GENERAL MAINTENANCE

RADIO PROGRAMS

To receive AM broadcasts:

1. Turn the Function Selector to AM
2. Select the desired AM station on the AM dial with the Tuning Knob. It is properly tuned when the needle in the Tuning Indicator woves as far to the right as possible.

To receive FM broadcasts:

1. Turn the Function Selector to FM MONO for regular monaural broadcasts, to FM AUTO for both monaural and stereo broadcasts, and to FM STEREO for only stereo broadcasts.

NOTE: If stereo reception is unstable with the Function Selector in the FM AUTO position, turn to FM STEREO.

If too much disturbing noise accompanies a stereo broadcast in either FM STEREO or FM AUTO positions, first switch the NOISE CANCELER on, and if the noise is still too disturbing, turn the Function Selector to FM MONO to hear the same broadcast monaurally.

2. Select the desired FM station on the FM dial with the Tuning Knob. It is properly tuned when the needle in the Tuning Indicator moves as far to the right as possible. The FM Stereo Indicator illuminates automatically whenever an FM stereo broadcast is being received.

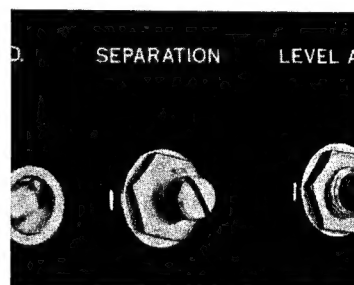
3. When too much interstation noise is during tuning, turn the Muting Switch to its On position.

4. It is best to adjust the output level of the tuner to match that of other sound equipment being used with the amplifier. This can be done by turning the LEVEL ADJ. control on the rear of the panel to either a higher or lower level.

GENERAL MAINTENANCE

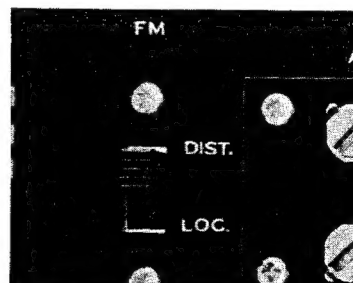
FM Stereo Separation

If the channel separation during FM-MPX stereo reception is inadequate or excessive, turn the screw marked MPX SEPARATION on the rear of the tuner for natural proportions. Never attempt to adjust it without reason however, as it has been properly adjusted and tested prior to leaving our factory.



Local-Distant Antenna Switch

This switch helps to adjust the tuner to the strength of FM signals in whatever area it is being used. Set it to DIST if you live in an area where FM signals are weak. If you live near broadcasting stations where there is danger of interference between stations, set the switch to LOC.

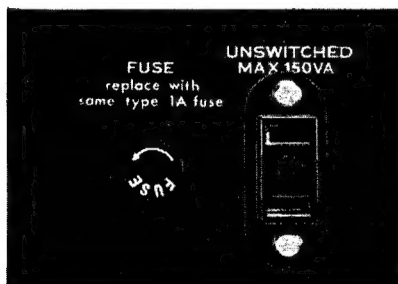


Where to Place

Since transistors are extremely susceptible to heat, the TU-777 has been designed to diffuse heat through the top and rear of its case. Therefore, special consideration should be given to where it will be used before installing the tuner. It should not be operated in a place where it is exposed directly to the sun, near radiators or other heat-generating sources, and it should never be mounted in an air-tight cabinet. Finally nothing should be placed on top of it.

AC Outlet

The TU-777 has been provided with a 150VA power outlet on its rear panel. It can be used as an AC power source for other components such as a turntable, but care should be taken not to use it for any component that exceeds its 150VA power capacity.

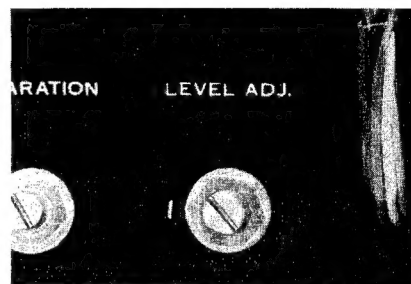


Power Fuse

If the tuner fails to operate when the power is switched on, its power fuse may be blown. To check, turn the fuse holder at the rear of the tuner to the left. If it is blown, disconnect the tuner from its power source and replace the fuse with an *identical 1A fuse*, after finding and eliminating the source of trouble that caused the fuse to blow. Using wire or a fuse of a different capacity as a stop-gap measure is dangerous and should be avoided. If the new fuse blows when the power is switched on again, contact your nearest Sansui dealer or our Service Section.

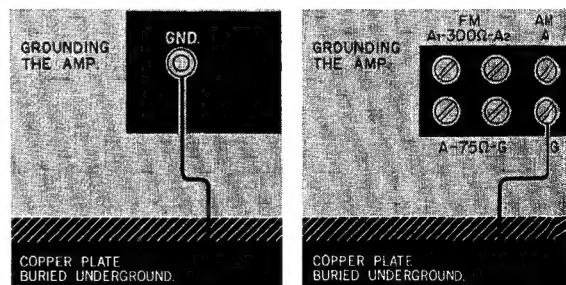
Level Adjustment Control

This control, labeled LEVEL ADJ. on the rear panel of the tuner, allows the TU-777's output level to match that of turntable, speakers and other components connected to an amplifier. Turned clockwise, it increases the output level of AM and FM broadcasts; turned counter-clockwise, it decreases the output level of both.



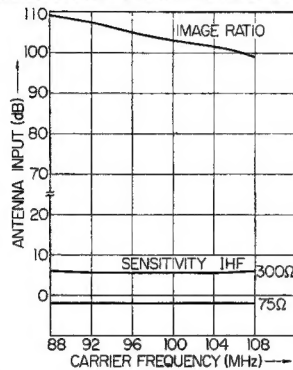
Grounding

Connect one end of vinyl or enameled wire to the terminal screw marked GND at the rear of the tuner, attach a copper plate to the other end, and bury it underground. Whenever an outdoor AM antenna is used, grounding becomes necessary. In all cases, grounding is desirable since it allows a better S/N ratio to be obtained.

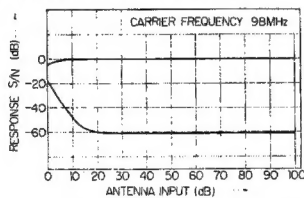


SPECIFICATIONS CHARACTERISTICS

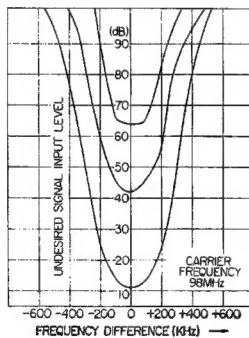
FM SENSITIVITY (IHF) & IMAGE RATIO



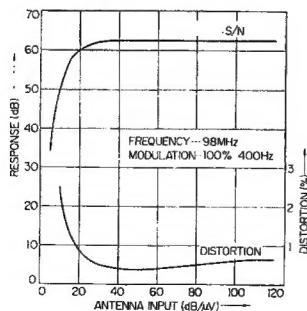
SIGNAL TO NOISE RATIO, OUTPUT LEVEL VS ANTENNA INPUT



FM SELECTIVITY



S/N & DISTORTION



FM SECTION

FREQUENCY RANGE: From 88 to 108 MHz

SENSITIVITY:

Antenna input 300Ω balanced 1.4μV
(S/N 20 dB, quieting)

1.8μV (IHF)

Antenna input 75Ω unbalanced 0.7μV
(S/N 20 dB, quieting)

1.0μV (IHF)

IMAGE REJECTION: Better than 80 dB (IHF)

SELECTIVITY: Better than 50 dB (IHF)

SIGNAL TO NOISE RATIO: Better than 65 dB (60 dB input, 100% mod.)

HARMONIC DISTORTION: Less than 0.8% (60 dB input, 100% mod.)

SPURIOUS RESPONSE REJECTION:
Better than 90 dB

IF REJECTION: Better than 95 dB

SPURIOUS RADIATION: Less than 34 dB

CAPTURE RATIO: Less than 2.5 dB (IHF)

FM STEREO SEPARATION: 35 dB (60dB input, 100% mod.)

AM SECTION

FREQUENCY RANGE: From 535 to 1,605 kHz

SENSITIVITY: 15μV (at 1,000 kHz, S/N 20 dB)

SELECTIVITY: Better than 20dB (at 1,000 kHz, 60 dB input)

DISCRIMINATOR

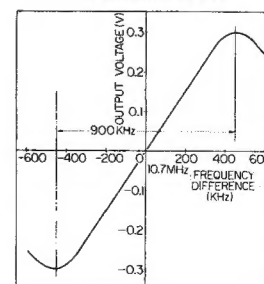


IMAGE FREQUENCY REJECTION:

Better than 50 dB (at 1,000 kHz)

IF REJECTION:

Better than 100dB (at 1,000kHz)

AUDIO OUTPUT

2V(from 0 to 2V variable)

LOAD IMPEDANCE:

over 10 k Ω

OTHER SPECIAL FEATURES

Circular Dial. Muting. FM Stereo Auto. FM Stereo indicator. FM local/distant Switch. Fly wheel tuning. AM ferrite bar antenna. FET Front end. Function indicator. Audio output Adjustor. Signal Strength (meter). Tuning Meter. FM Stereo Noise Canceller. FM Antenna Input for 300 ohms Balanced and 75 ohms Unbalanced.

TRANSISTORS & DIODES

28 transistors and 1 FET

24 diodes and 1 Zener diode

POWER REQUIREMENTS

POWER VOLTAGE: AC 117, 220~240V, from 50 to 60 Hz

POWER CONSUMPTION: 10 VA

DIMENSIONS:

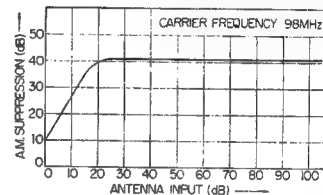
Width: 13 $\frac{9}{16}$ "

Height: 6 $\frac{1}{8}$ "

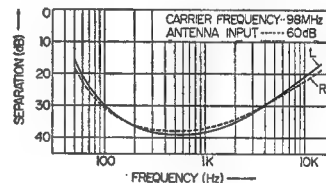
Depth: 13 $\frac{1}{8}$ "

WEIGHT: 17.1 lbs.

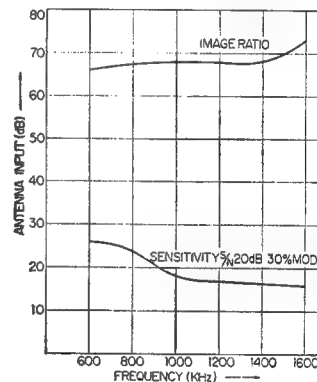
AMPLITUDE MODULATION SUPPRESSION RATIO



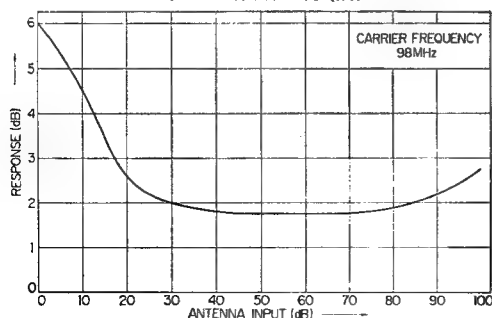
FM MPX SEPARATION



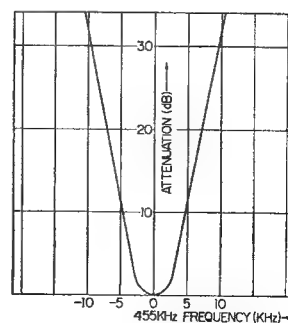
AM SENSITIVITY & IMAGE RATIO



FM CAPTURE RATIO (IHF)



AM IF SELECTIVITY



*All rights reserve specifications subject to change without notice.

GENERAL TROUBLESHOOTING CHART

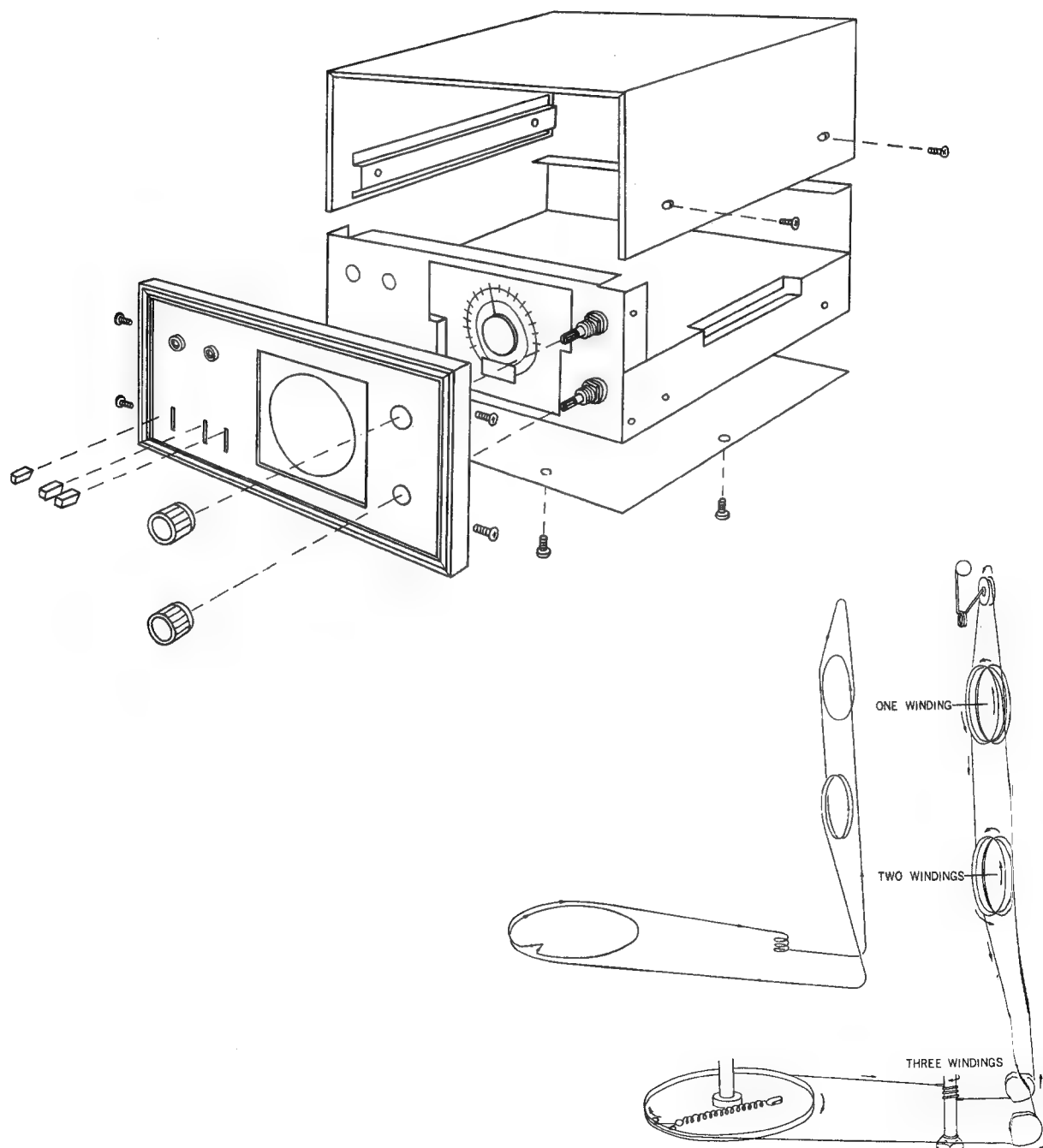
This section has been prepared to help you quickly and correctly determine the causes, reasons and remedies in situations where your tuner does not perform satisfactorily. You will note that most of the causes result from improper handling or positioning of the receiver and not from internal defects. For situations that are not covered in this section however, and in instances where you are fairly sure that a breakdown in the tuner's circuitry has occurred, please consult your nearest Sansui dealer or our Service Center.

PROGRAM	SYMPTOM	PROBABLE CAUSE	WHAT TO DO
AM, FM or MPX reception	A. Constant or intermittent noise heard at times or in a certain area.	<ul style="list-style-type: none"> * Discharge or oscillation caused by electrical appliances, such as fluorescent lamps, TV sets, D.C. motors, rectifier and oscillator * Natural phenomena, such as atmospheric static, and thunderbolts * Insufficient antenna input due to thick reinforced concrete walls of the building or long distances from the station * Wave interference from other electrical appliances 	<ul style="list-style-type: none"> * Attach a noise limiter to the electrical appliance that causes the noise, or attach it to the power source of the tuner. * Install an outdoor antenna and ground the tuner to raise the signal-to-noise ratio. * Reverse the power cord plug-receptacle connections. * If the noise occurs at a certain frequency, attach a wave trap to the ANT. input. * Keep the set a proper distance from other electrical appliances.
	B. The needle of the tuning meter does not move well.	<ul style="list-style-type: none"> * The movement of the needle is one thing, the sensitivity of the tuner is another. 	<ul style="list-style-type: none"> * Tune the set for maximum signal strength.
	C. The zero point of the meter diverges much.	<ul style="list-style-type: none"> * Regional difference in field intensity. 	<ul style="list-style-type: none"> * The unit is not at fault.
AM reception	A. Noise heard at a particular time of a day, in a certain area or over a part of the dial.	<ul style="list-style-type: none"> * This results from the nature of AM broadcasts. 	<ul style="list-style-type: none"> * Install the antenna for maximum antenna efficiency. See "ANTENNA" in the operating instructions section. * In some cases, the noise can be eliminated by grounding the tuner or reversing the power cord plug-receptacle connections.
	B. High-frequency noise	<ul style="list-style-type: none"> * Adjacent-channel interference or beat interference * TV set too close to the audio system 	<ul style="list-style-type: none"> * Although such noise cannot be eliminated, it is advisable to turn the amplifier's TREBLE control properly from midpoint to left and switch on the HIGH FILTER * Keep the TV set a proper distance from the audio system.

PROGRAM	SYMPTOM	PROBABLE CAUSE	WHAT TO DO
FM reception	A Noisy	* Poor noise limiter effect or too low S/N ratio due to insufficient antenna input.	* Adjust the feeder wire antenna supplied for maximum signal strength. * If this does not prove effective, use an outdoor antenna designed exclusively for FM. When you use a TV antenna for both TV and FM with the help of a divider, make sure the TV reception is not effected. * An excessively long antenna may cause noise.
	NOTE: FM reception is affected considerably by the conditions of transmission by stations: power and antenna efficiency. As a result, having difficulty in receiving another station.		
	B. "Scratch-like" noise is heard.	* Ignition noise caused by the starting of an automobile engine and/or other motors	* Install the antenna and its lead-in wire a proper distance from the road or raise the antenna input as described above.
	C. Tuning noise between stations	* This noise results from the nature of FM reception. As the station signal becomes weak, the noise limiter effect is also decreased. The amplification of the limiter, in turn, is enlarged and thus a big noise is generated.	* Turn on the MUTING switch. In as much as it also reduces the sensitivity, it should be used sparingly.
FM-MPX reception	A. Noise heard during FM-MPX reception while not heard during FM mono reception.	* The service area of the FM-MPX broadcast is only half as much as that of the FM mono broadcast.	* Install the antenna for maximum antenna input. * Switch the NOISE CANCELER to its ON position.
	B. Clearness of channel separation is decreased during the reception.	* Excess heat	* Circulation of air is important to the tuner. Make sure that air can flow underneath.
	C. The stereo indicator goes on and off.	* Interference	* The indicator is not at fault. * Readjust VR ₅₀₂
	D. The stereo indicator goes on and off even though a stereo station is not received.	* Interference	* The indicator is not at fault. * Readjust VR ₅₀₂

DISASSEMBLY PROCEDURE

DIAL MECHANISM



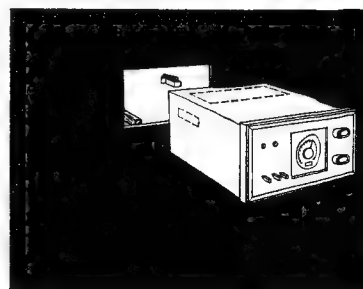
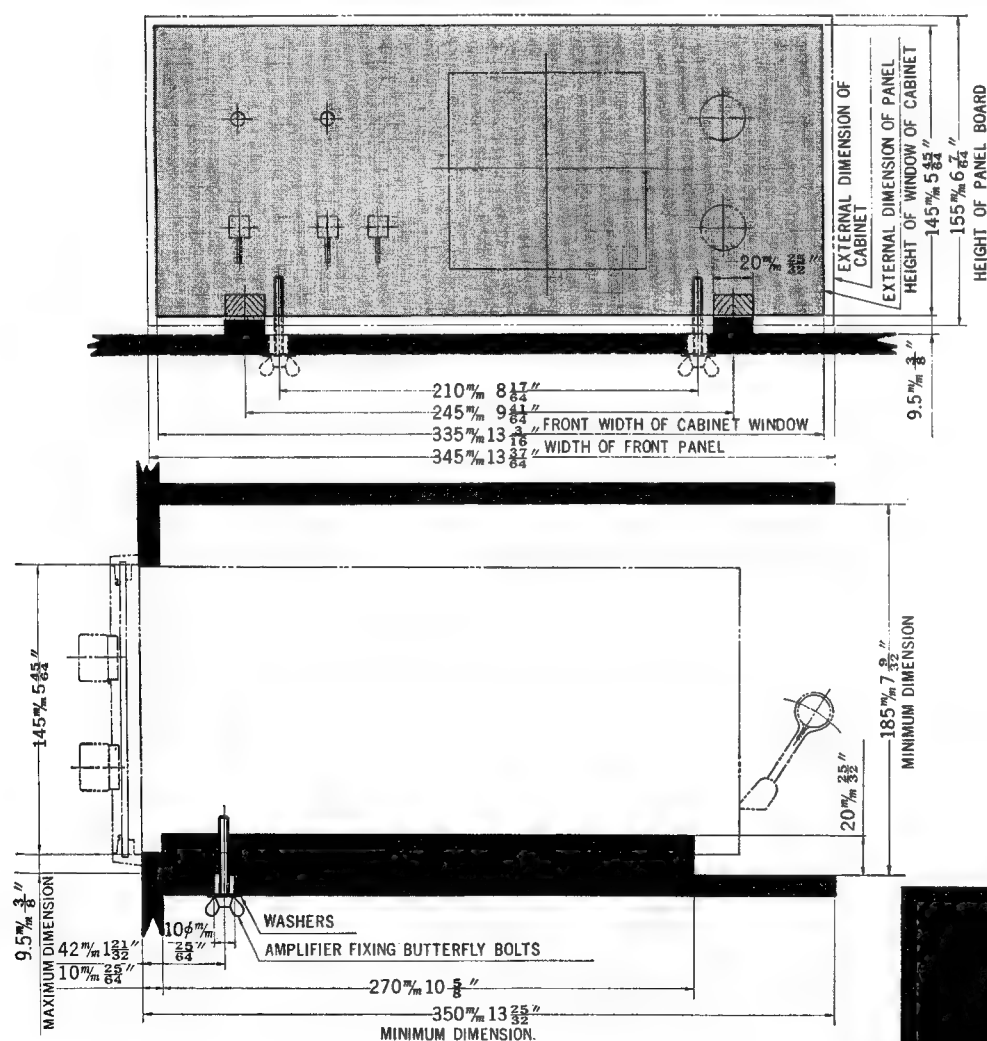
This diagram shows the size and dimensions required for mounting the TU-777 into a custommade cabinet. Note that ample space is provided for complete air circulation above and below the tuner.

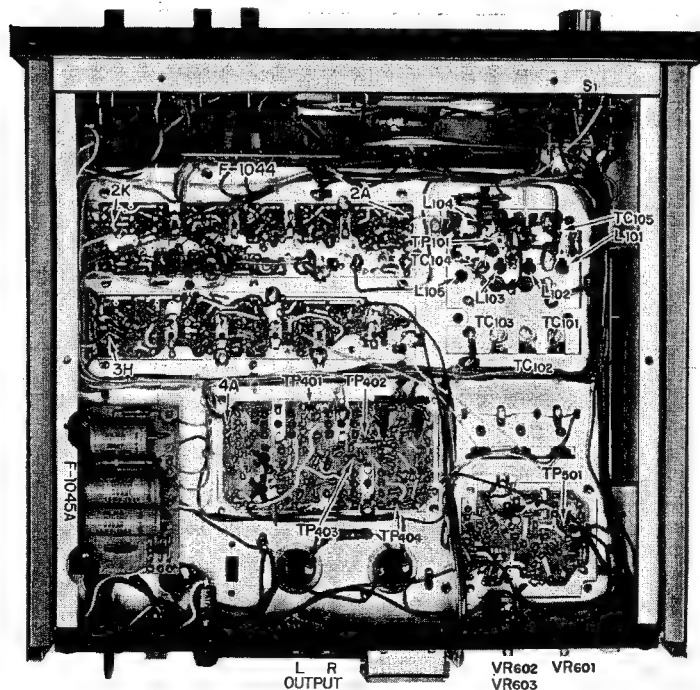
2. Place two boards on the floor of the cabinet as illustrated. Boards should measure $\frac{3}{8}" \times \frac{3}{8}" \times 10\frac{1}{2}"$ mm

4. Remove the four rubber feet from the TU-777.

(Retain for future use.)

5. Insert the TU-777 into the cabinet through the window until the edges of its front panel are flush with the cabinet, and secure both tuner and cabinet with washers and butterfly bolts provided.



[illegible]

ALIGNMENT PROCEDURE

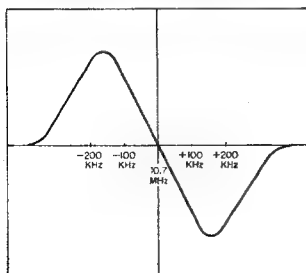
Any internal parts replacement or changes, you make in the TU-777 requires proper adjustment again. Appropriate test points and adjustments are given on the following pages.

FM ALIGNMENT PROCEDURE

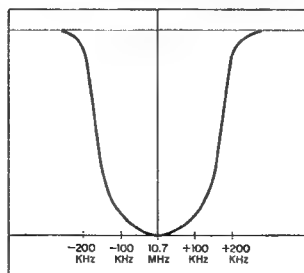
NOTE: To align, set the FM signal generator level to minimum
Turn tuning gang fully.
Center carrier wave.
Set pointer at reference mark

STEP	ALIGN	GENERATOR	FEED SIGNAL	OUTPUT INDICATOR	DIAL SETTING	ADJUST	ADJUST FOR
1.	IF Trans- former	10.7 MHz ± 200 kHz	Sweep signal is sent to TP ₁₀₁ via the 0.02pF ceramic capacitor	Oscilloscope is connected to TR ₂₀₂ emitter, and then TR ₂₀₃ collector to ground via the 0.05 μ F ceramic capacitor		Primary and secondary sides of L ₁₀₄ , T ₂₀₁ , T ₂₀₂ and T ₂₀₃	Best I.F.T. wave from
2.	Discrimi- nator	10.7 MHz ± 200 kHz	Sweep signal is sent to 2A via the 0.05 μ F ceramic capacitor	Oscilloscope is connected to 2k via the 0.05 μ F capacitor		FM Discriminator transformer T ₂₀₄ primary and secondary	S curve
3.	O.S.C.	88 MHz 400 Hz 100% Modulation	To antenna terminals	Oscilloscope and V.T.V.M. at output load	88 MHz	O.S.C. coil L ₁₀₅	Maximum
4.	O.S.C.	108 MHz 400 Hz 100% Modulation	To antenna terminals	Oscilloscope and V.T.V.M. at output load	108 MHz	O.S.C. trimmer TC ₁₀₄	Maximum
5.	Repeat 3 and 4						
6.	RF Amp. Circuit	90 MHz 400 Hz 100% Modulation	To antenna terminals	Oscilloscope and V.T.V.M. at output load	90 MHz	Antenna coil L ₁₀₁ , L ₁₀₂ and L ₁₀₃	Maximum
7.	RF Amp. Circuit	106 MHz 400 Hz 100% Modulation	To antenna terminals	Oscilloscope and V.T.V.M. at output load	106 MHz	Trimmer TC ₁₀₁ , TC ₁₀₂ and TC ₁₀₃	Maximum
8.	Repeat 6 and 7.						

FM DISCRIMINATOR CHARACTERISTIC



FM IF CHARACTERISTIC



ALIGNMENT PROCEDURE

FM MULTIPLEX ALIGNMENT PROCEDURE

1. Do not attempt to align the Multiplex Circuit unless the following equipment is available:

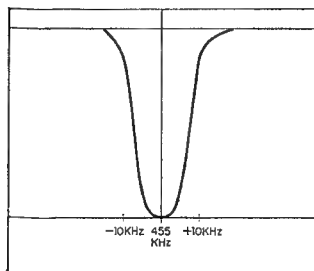
a. Multiplex Stereo Generator b. Oscilloscope c. AC V.T.V.M. d. Audio Oscillator e. FM Signal Generator

STEP	ALIGN	GENERATOR	FEED SIGNAL	OUTPUT INDICATOR	ADJUST	ADJUST FOR
1.	67 kHz Trap	67 kHz Audio Signal	Connect to TP _{4A}	V.T.V.M. at TP ₄₀₄	L ₄₀₁ (MFC-A)	Minimum
2.	71 kHz Trap	71 kHz Audio Signal	Connect to TP _{4A}	V.T.V.m. at TP ₄₀₄	L ₄₀₂ (MFC-B)	Minimum
3.	19 kHz Transformer	FM Signal Gen. Modulated 30% by STEREO Gen. sub-channel	Antenna terminals Tune to signal	V.T.V.M. and Oscilloscope at TP ₄₀₁	T ₄₀₁ (MPT-20A)	Maximum
4.	19 kHz Transformer	FM Signal Gen. Modulated 30% by STEREO Gen. sub-channel	Antenna terminals Tune to signal	V.T.V.M. and Oscilloscope at TP ₄₀₃	T ₄₀₃ (MPT-20B)	Smaller peak value of two peak values
5.	38 kHz Transformer	FM Signal Gen. Modulated 30% by STEREO Gen. sub-channel	Antenna terminals Tune to signal	V.T.V.M. and Oscilloscope at TP ₄₀₃	T ₄₀₃ (MPT-20B)	Smaller peak value of two peak values
6.	38 kHz Transformer and Separation VR	FM Signal Gen. Modulated 30% by STEREO Signal Gen. channel-L	Antenna terminals Tune to signal	V.T.V.M. and Oscilloscope at output load channel-R	T ₄₀₃ (MPT-20B) within ¼ turn and separation VR(VR ₆₀₁)	Channel-R Minimum

AM ALIGNMENT PROCEDURE

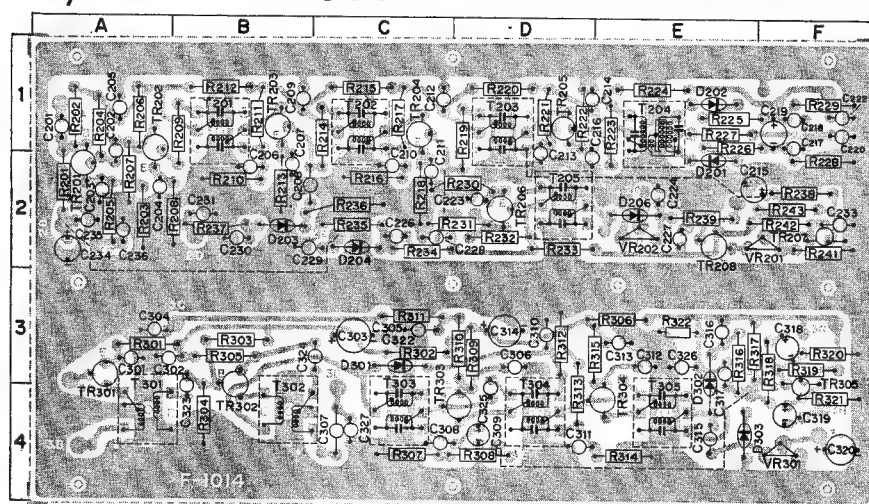
NOTE: To align, set the AM signal generator level to minimum.

STOP	ALIGN	GENERATOR	FEED SIGNAL	OUTPUT INDICATOR	DIAL SETTING	ADJUST	ADJUST FOR
1.	I.F. Transformer	455 kHz ±30 kHz Sweep-generator	Antenna terminals	Oscilloscope and V.T.V.M. at TP ₃₀₂		Primary and secondary sides from the 1st I.F.T. (T ₃₀₂) to the 3rd I.F.T. (T ₃₀₄)	Best I.F.T. wave form
2.	O.S.C	AM-generator 533 kHz 30% 400 Hz 30% Modulation	Antenna terminals	Oscilloscope and V.T.V.M. at output load	535 kHz	O.S.C. Coil T ₃₀₂	Maximum
3.	O.S.C	AM-generator 1600 kHz 400 Hz 30% Modulation	Antenna terminals	Oscilloscope and V.T.V.M. at output load	1600 kHz	O.S.C. Trimmer cap. TC ₃₀₃	Maximum
4.	Reiterate 2 and 3						
5.	RF amp.	AM-generator 600 kHz 400 Hz 30% Modulation	Antenna terminals	Oscilloscope and V.T.V.M. at output load	600 kHz	RF transformer T ₃₀₁	Maximum
6.	Antenna circuit	AM-generator 500 kHz 400 Hz 30% Modulation	Antenna terminals	Oscilloscope and V.T.V.M. at output load	1400 kHz	Ferrite bar Antenna coil L ₃₀₁	Maximum
7.	RF amp.	AM-generator 1400 kHz 400 Hz 30% Modulation	Antenna terminals	Oscilloscope and V.T.V.M. at output load	1400 kHz	RF Trimmer TC ₃₀₂	Maximum
8.	Antenna circuit	AM-generator 1400 kHz 400 Hz 30% Modulation	Antenna terminals	Oscilloscope and V.T.V.M. at output load	1400 kHz	Antenna circuit Trimmer TC ₃₀₁	Maximum
9.	Reiterate 5, 6, 7, 8						



AM IF CHARACTERISTIC

FM, AM IFT F-1014



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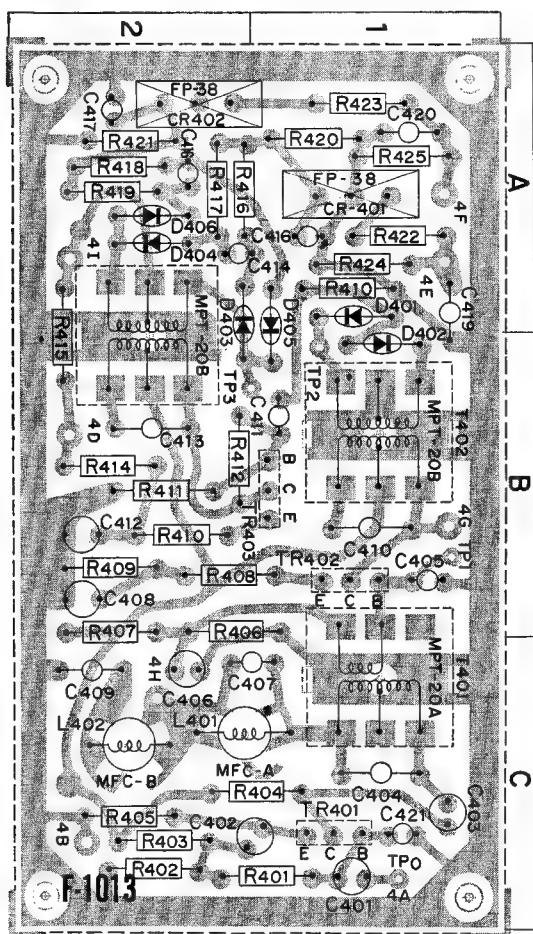
X: Parts No
Y: Parts Name
Z: Position of Parts
 (Co-ordinate number and letter in printed circuit)

X	Y	Z
R321	1 k Ω $\frac{1}{4}$ W $\pm 10\%$ PREC. Fixed	4 F
R322	1.5 k Ω $\frac{1}{2}$ W $\pm 10\%$ PREC. Fixed	3 E
C201	0.01 μ F $\pm 100\%$ 50 VDCW. CER.	1 A
C202	0.01 μ F $\pm 100\%$ 50 VDCW. CER.	1, 2 A
C203	0.02 μ F $\pm 100\%$ 50 VDCW. CER.	2 A
C204	0.02 μ F $\pm 100\%$ 50 VDCW. CER.	2 A
C205	0.02 μ F $\pm 100\%$ 50 VDCW. CER.	1 A
C206	0.02 μ F $\pm 100\%$ 50 VDCW. CER.	2 B
C207	0.02 μ F $\pm 100\%$ 50 VDCW. CER.	2 B
C208	10 pF $\pm 10\%$ 50 VDCW. CER.	2 B
C209	0.02 μ F $\pm 100\%$ 50 VDCW. CER.	1 B
C210	0.02 μ F $\pm 100\%$ 50 VDCW. CER.	2 C
C211	0.02 μ F $\pm 100\%$ 50 VDCW. CER.	2 C
C212	0.02 μ F $\pm 100\%$ 50 VDCW. CER.	1 C
C213	0.02 μ F $\pm 100\%$ 50 VDCW. CER.	1, 2 C
C214	0.02 μ F $\pm 100\%$ 50 VDCW. CER.	1 D
C215	1 μ F 50 WV ELECT.	2 E, F
C216	0.02 μ F $\pm 100\%$ 50 VDCW. CER.	1, 2 D
C217	200 pF $\pm 10\%$ 50 VDCW. CER.	1 F
C218	200 pF $\pm 10\%$ 50 VDCW. CER.	1 F
C219	10 μ F 10 VDCW. ELECT.	1 F
C220	50 pF $\pm 10\%$ 50 VDCW. CER.	1 F
C221		1 F
C222	0.02 μ E $\pm 100\%$ 50 VDCW. CER.	1 F
C223	0.02 μ F $\pm 100\%$ 50 VDCW. CER.	2 F
C224	0.02 μ F $\pm 100\%$ 50 VDCW. CER.	2 E
C225		2 E
C226	10 pF $\pm 10\%$ 50 VDCW. CER.	2 C
C227	0.02 μ F $\pm 100\%$ 50 VDCW. CER.	2 E
C228	0.02 μ F $\pm 100\%$ 50 VDCW. CER.	2 C
C229	0.02 μ F $\pm 100\%$ 50 VDCW. CER.	2 B
C230	0.02 μ F $\pm 100\%$ 50 VDCW. CER.	2 B
C231	0.02 μ F $\pm 100\%$ 50 VDCW. CER.	2 B
C232		
C233	0.02 μ F $\pm 100\%$ 50 VDCW. CER.	2 F
C234	10 μ F 10 WV ELECT.	2 A
C235	0.01 μ F $\pm 100\%$ 50 VDCW. CER.	2 A
C236	0.02 μ F $\pm 100\%$ 50 VDCW. CER.	2 A
C301	0.03 μ F $\pm 100\%$ 50 VDCW. CER.	3 A
C302	0.02 μ F $\pm 100\%$ 50 VDCW. CER.	3 A, B
C303	200 μ F 15 WV ELECT.	3 C
C304	0.02 μ F $\pm 100\%$ 50 VDCW. CER.	3 A
C305	0.02 μ F $\pm 100\%$ 50 VDCW. CER.	3 C
C306	0.02 μ F $\pm 100\%$ 50 VDCW. CER.	2 D
C307	430 pF $\pm 5\%$ 50 VDCW. Mc.	4 C

X	Y	Z
C308	0.02 μ F $\pm 100\%$ 50 VDCW. CER.	4 C
C309	10 μ F 15 WV ELECT.	4 D
C310	0.02 μ F $\pm 100\%$ 50 VDCW. CER.	3 D
C311	0.02 μ F $\pm 100\%$ 50 VDCW. CER.	4 D
C312	0.02 μ F $\pm 100\%$ 50 VDCW. CER.	3 E
C313	0.02 μ F $\pm 100\%$ 50 VDCW. CER.	3 E
C314	200 μ F 15 WV ELECT.	3 D
C315	0.01 μ F $\pm 100\%$ 50 VDCW. CER.	4 E
C316	0.01 μ F $\pm 100\%$ 50 VDCW. CER.	3 E
C317	0.02 μ F $\pm 100\%$ 50 VDCW. CER.	3 E
C318	1 μ F 25 WV ELECT.	3 F
C319	10 μ F 15 WV ELECT.	4 F
C320	10 μ F 15 WV ELECT.	4 F
C321	200 μ F 15 WV ELECT.	3 E
C322		
C323	0.02 μ F $\pm 100\%$ 50 VDCW. CER.	3, 4 B
C324	0.01 μ F $\pm 100\%$ 50 VDCW. CER.	3 C
C325	1 pF $\pm 10\%$ 50 VDCW. CER.	3, 4 D
C326		3 E
C327	20 pF $\pm 10\%$ 50 VDCW. CER.	4 C
TR201	2SC645B Si N-P-N	1, 2 A
TR202	2RC645C Si N-P-N	1, 2 A
TR203	2SC645C Si N-P-N	1 B
TR204	2SC645C Si N-P-N	1 C
TR205	2SC645C Si N-P-N	1 D
TR206	2SC645B Si N-P-N	2 D
TR207	2SC828 Si N-P-N	2 F
TR208	2SC828 Si N-P-N	2 E
TR301	2SC102CA Ge P-N-P	3 A
TR302	2SA102CA Ge P-N-P	3, 4 B
TR303	2SA101X Ge P-N-P	4 C, D
TR304	2SA101Y Ge P-N-P	4 D, E
TR305	2SC536E Si N-P-N	3 F
D201	IN-60 Ge diod FM detector	2 E
D202	IN-60 Ge diod FM detector	1 E
D203	IN-60 Ge diod AGC	2 B
D204	IN-60 Ge diod FM detector	2 C
D205		
D206	IN-60 Ge diod Muting	2 E
D301	IN-34A Ge diod AGC	3 C
D302	IN-34A Ge diod AM detector	3, 4 C
D303	IN-34A Ge diod Meter	4 E
VR201	5 k Ω (B) Muting ADJ. (103018)	2 E, F
VR202	50 k Ω (B) FM Meter ADJ. (103020)	2 E
VR301	10 k Ω (B) AM Meter ADJ. (103019)	4 F
T201	FM IFT 10.7MHz (423522)	1 B
T202	FM IFT 10.7MHz (423524)	1 C
T203	FM IFT 10.7MHz (423523)	1 D
T204	FM IFT 10.7MHz Discriminator (423525)	1 E
T205	FM IFT 10.7MHz (423515)	2 D
T301	AM RF (421003)	4 A
T302	AM OSC (422004)	4 B
T303	AM IFT 455 kHz (423011)	4 C
T304	AM IFT 455 kHz (423012)	4 D
T305	AM IFT 455 kHz (423013)	4 E

PRINTED-CIRCUIT SHEETS & PARTS LIST

FM MULTIPLEX F-1013

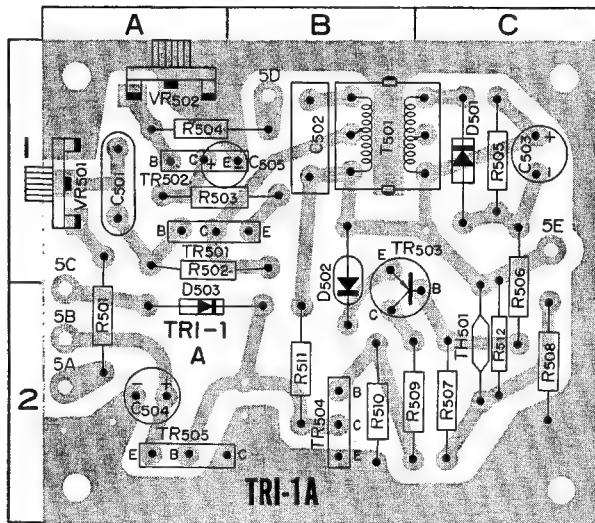


X	Y	Z
R401	47k Ω $\frac{1}{4}$ W $\pm 10\%$ PREC. Fixed	1C
R402	100k Ω $\frac{1}{4}$ W $\pm 10\%$ PREC. Fixed	2C
R403	220k Ω $\frac{1}{4}$ W $\pm 10\%$ PREC. Fixed	2C
R404	3.3k Ω $\frac{1}{4}$ W $\pm 10\%$ PREC. Fixed	1, 2C
R405	1.5k Ω $\frac{1}{4}$ W $\pm 10\%$ PREC. Fixed	2C
R406	27k Ω $\frac{1}{4}$ W $\pm 10\%$ PREC. Fixed	2B
R407	270k Ω $\frac{1}{4}$ W $\pm 10\%$ PREC. Fixed	2B
R408	22 Ω $\frac{1}{4}$ W $\pm 10\%$ PREC. Fixed	2B
R409	15k Ω $\frac{1}{4}$ W $\pm 10\%$ PREC. Fixed	2B
R410	68k Ω $\frac{1}{4}$ W $\pm 10\%$ PREC. Fixed	1A
R411	27k Ω $\frac{1}{4}$ W $\pm 10\%$ PREC. Fixed	2B
R412	270k Ω $\frac{1}{4}$ W $\pm 10\%$ PREC. Fixed	2B
R413	120 Ω $\frac{1}{4}$ W $\pm 10\%$ PREC. Fixed	2B

X	Y	Z
R414	1.2k Ω $\frac{1}{4}$ W $\pm 10\%$ PREC. Fixed	2B
R415	150k Ω $\frac{1}{4}$ W $\pm 10\%$ PREC. Fixed	2A, B
R416	10k Ω $\frac{1}{4}$ W $\pm 10\%$ PREC. Fixed	2A
R417	10k Ω $\frac{1}{4}$ W $\pm 10\%$ PREC. Fixed	2A
R418	10k Ω $\frac{1}{4}$ W $\pm 10\%$ PREC. Fixed	2A
R419	10k Ω $\frac{1}{4}$ W $\pm 10\%$ PREC. Fixed	2A
R420	100k Ω $\frac{1}{4}$ W $\pm 10\%$ PREC. Fixed	1A
R421	100k Ω $\frac{1}{4}$ W $\pm 10\%$ PREC. Fixed	2A
R422	330k Ω $\frac{1}{4}$ W $\pm 10\%$ PREC. Fixed	1A
R423	330k Ω $\frac{1}{4}$ W $\pm 10\%$ PREC. Fixed	1A
R424	330k Ω $\frac{1}{4}$ W $\pm 10\%$ PREC. Fixed	1A
R425	330k Ω $\frac{1}{4}$ W $\pm 10\%$ PREC. Fixed	1A
C401	10 μ F 15 WV ELECT.	1C
C402	50 μ F 6 WV ELECT.	1, 2C
C403	10 μ F 15 WV ELECT.	1C
C404	5000pF $\pm 5\%$ 50 VDCW. Mc.	1C
C405	0.002 μ F $\pm 100\%$ 50 VDCW. CER.	1B
C406	1 μ F 25 WV ELECT.	2C
C407	450pF 50 VDCW. $\pm 5\%$ Mc.	1, 2B
C408	1 μ F 25 WV ELECT.	2B
C409	120pF 50 VDCW. $\pm 5\%$ Mc.	1C
C410	6600pF 50 VDCW. $\pm 5\%$ Mc.	1B
C411	0.05 μ F 50 VDCW. $\pm 10\%$ My.	2B
C412	1 μ F 25 WV ELECT.	2B
C413	1700pF $\pm 5\%$ 50 VDCW. Mc.	2B
C414	100pF $\pm 10\%$ 50 VDCW. CER.	2A
C415	100pF $\pm 10\%$ 50 VDCW. CER.	2A
C416	100pF $\pm 10\%$ 50 VDCW. CER.	1A
C417	100pF $\pm 10\%$ 50 VDCW. CER.	1A
C418		
C419	650pF $\pm 10\%$ 50 VDCW. Mc.	1A
C420	650pF $\pm 10\%$ 50 VDCW. Mc.	1A
C421	50pF $\pm 10\%$ 50 VDCW. CER.	1C
CR401	FP-38 38kHz Filter & de-emphasis	1A
CR402	FP-38 38kHz Filter & de-emphasis	2A
TR401	2SC536D Si N-P-N	1C
TR402	2SC536E Si N-P-N	2B
TR403	2SC536E Si N-P-N	2B
D401	IN-34A Ge diod 19kHz Rectifier	1A
D402	IN-34A Ge diod 19kHz Rectifier	1B
D403	IN-34A Ge diod 38kHz Rectifier	1A, B
D404	IN-34A Ge diod 38kHz Rectifier	2A
D405	IN-34A Ge diod 38kHz Rectifier	1A, B
D406	IN-34A Ge diod 38kHz Rectifier	2A
L401	10mH 67kHz Filter (424014)	1, 2C
L402	39mH 71kHz Filter (424015)	2C
T401	19kHz Tuning trap (424012)	1C
T402	19kHz Tuning trap (424012)	1B
T403	38kHz Tuning trap (424014)	2A, B

X: Parts No
Y: Parts Name
Z: Position of Parts
 (Co-ordinate number and letter in printed circuit)

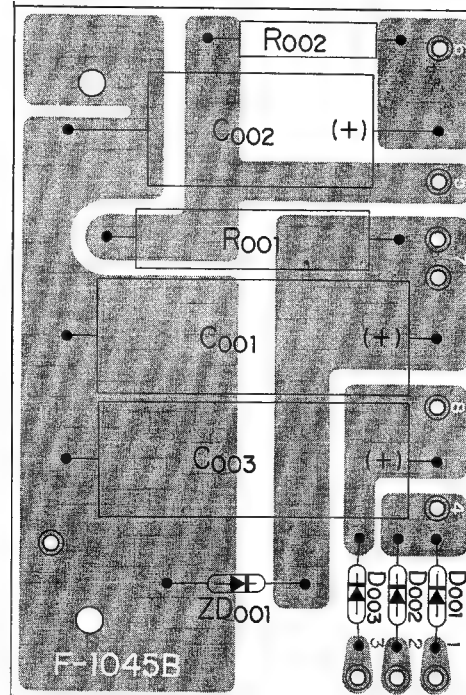
FM STEREO INDICATOR TRI-1A



X	Y				Z
R501	3.3 k Ω	$\frac{1}{2}$ W	$\pm 10\%$	COMP. Fixed	2A
R502	1M Ω	$\frac{1}{2}$ W	$\pm 10\%$	COMP. Fixed	1A
R503	1 k Ω	$\frac{1}{2}$ W	$\pm 10\%$	COMP. Fixed	1A
R504	39 k Ω	$\frac{1}{2}$ W	$\pm 10\%$	COMP. Fixed	1A
R505	27 k Ω	$\frac{1}{2}$ W	$\pm 10\%$	COMP. Fixed	1C
R506	10 k Ω	$\frac{1}{2}$ W	$\pm 10\%$	COMP. Fixed	1C
R507	15 k Ω	$\frac{1}{2}$ W	$\pm 10\%$	COMP. Fixed	2C
R508	8.2 k Ω	$\frac{1}{2}$ W	$\pm 10\%$	COMP. Fixed	2C
R509	22 k Ω	$\frac{1}{2}$ W	$\pm 10\%$	COMP. Fixed	2C
R510	3.3 k Ω	$\frac{1}{2}$ W	$\pm 10\%$	COMP. Fixed	2C
R511	22 k Ω	$\frac{1}{2}$ W	$\pm 10\%$	COMP. Fixed	2B
R512	390 Ω	$\frac{1}{2}$ W	$\pm 10\%$	COMP. Fixed	2C
C501	0.1 μ F	$\pm 10\%$	50 VDCW.	My.	1A
C502	5000 pF	$\pm 5\%$	50 VCVW.	Mc.	1B
C503	30 μ F		15 WV	ELECT.	1C
C504	10 μ F		15 WV	ELECT.	2A
C505	1 μ F		25 WV	ELECT.	1A
T501	19 kHz	Tuning trap			1B
VR501	50 k Ω (B)	Stereo indicator ADJ.			1A
VR502	100 k Ω (B)	Stereo indicator ADJ.			1A
TH501	D-22A	Thermistor			2C
TR501	2SC-458	Si N-P-N			1A
TR502	2SC-458	Si N-P-N			1A
TR503	2CB-54	Ge P-N-P			2B
TR504	2SC-458	Si N-P-N			2B

X	Y		Z
TR505	2CB-324	Ge P-N-P	2A
D501	OA-91(IN-60)	Ge diod	1C
D502	SM-150(10D-2)	Si diod	1B
D503	OA-91(IN-60)	Ge diod	2A

POWER CIRCUIT F-1045B



X	Y				Z
R001	330 Ω	2W	$\pm 10\%$	PREC. Fixed	
R002	220 Ω	1W	$\pm 10\%$	PREC. Fixed	
C001	500 μ F	15 WV		ELECT.	
C002	200 μ F	25 WV		ELECT.	
C003	500 μ F	15 WV		ELECT.	
D001	10D-2(SW-0502)	Si Rectifier			
D002	10D-2(SW-0502)	Si Rectifier			
D003	10D-1(SW-0501)	Si Rectifier			
ZD001	SR-212	12V	$\pm 10\%$ $\frac{+10\%}{-5\%}$	2-diod	

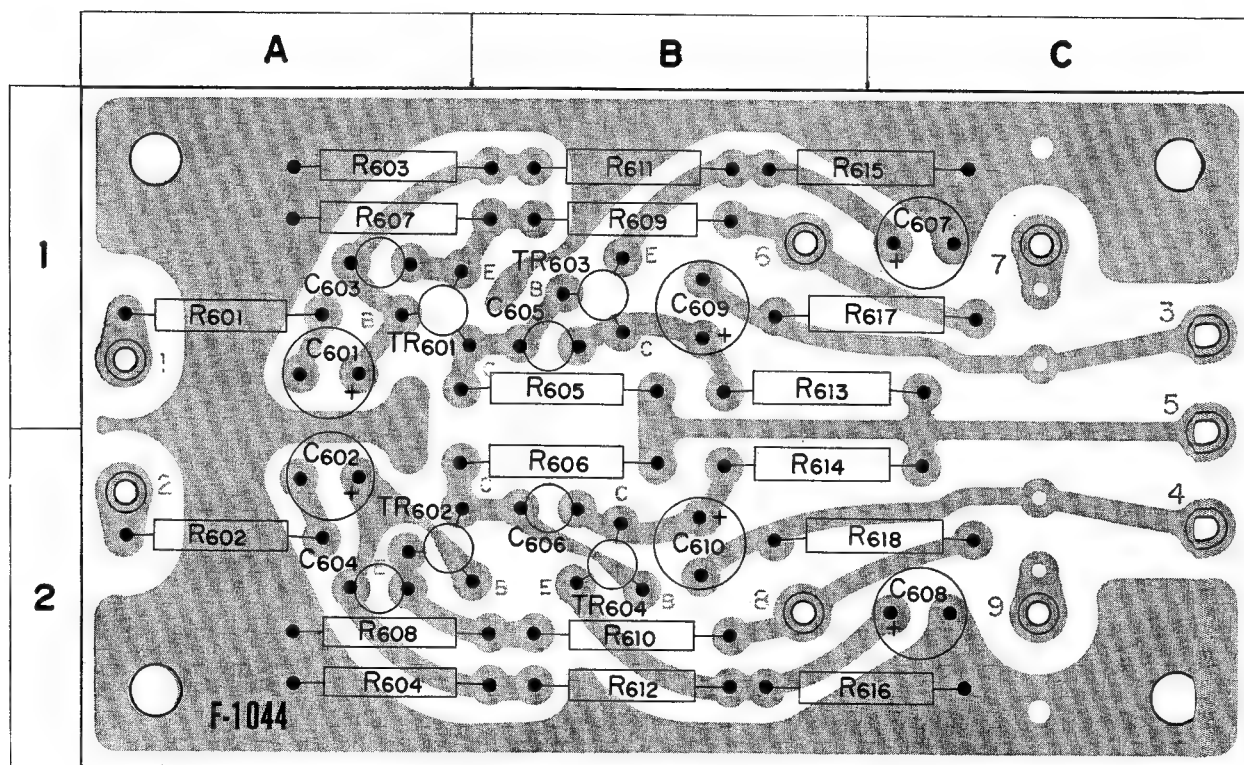
PRINTED-CIRCUIT SHEETS & PARTS LIST

X: Parts No
Y: Parts Name
Z: Position of Parts
(Co-ordinate number and letter in printed circuit)

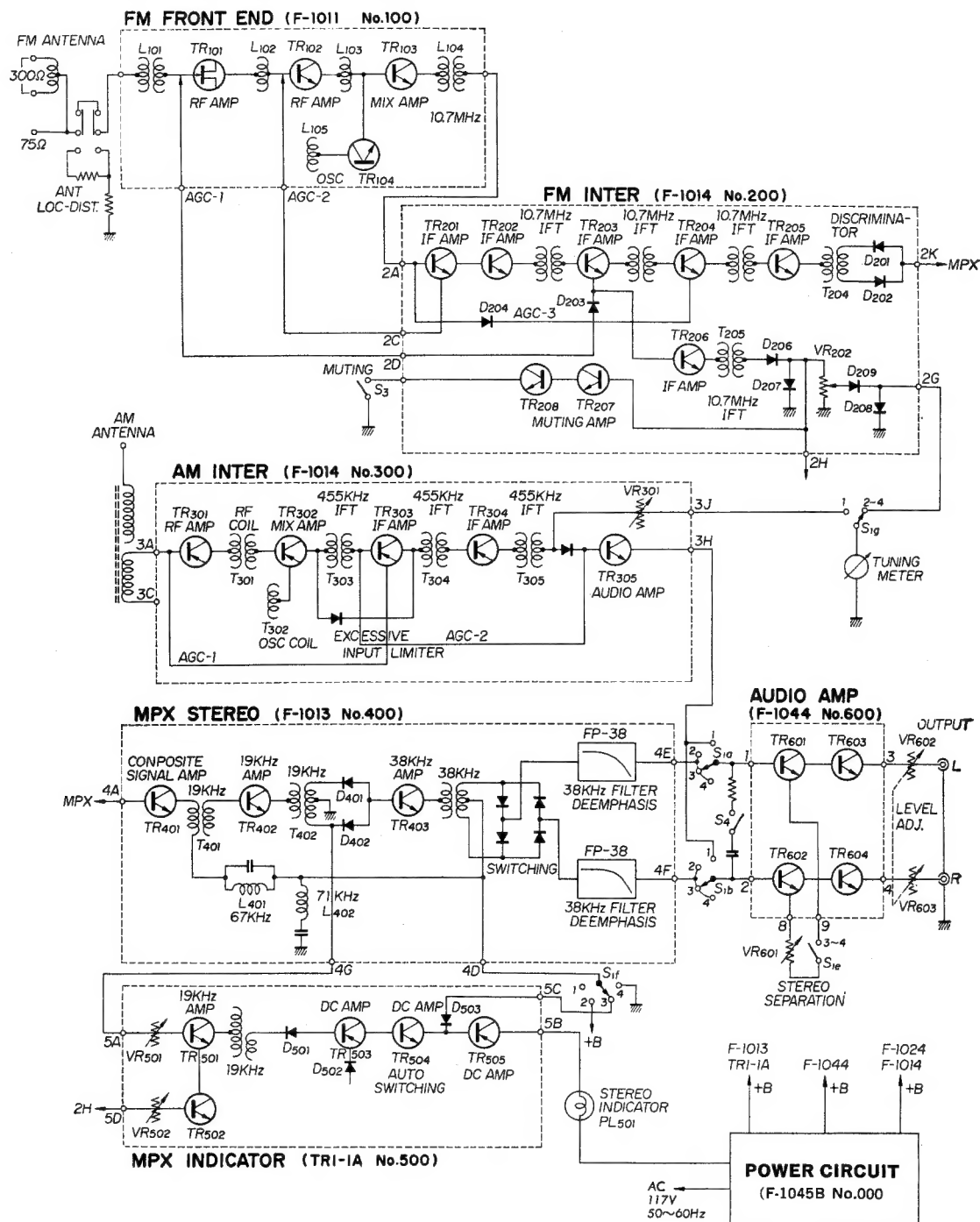
AUDIO AMP. F-1044

X	Y	Z
R601	1k Ω $\frac{1}{4}$ W $\pm 10\%$ PREC. Fixed	1 A
R602	1k Ω $\frac{1}{4}$ W $\pm 10\%$ PREC. Fixed	2 A
R603	270k Ω $\frac{1}{4}$ W $\pm 10\%$ PREC. Fixed	1 A
R604	270k Ω $\frac{1}{4}$ W $\pm 10\%$ PREC. Fixed	2 A
R605	100k Ω $\frac{1}{4}$ W $\pm 10\%$ PREC. Fixed	1 B
R606	100k Ω $\frac{1}{4}$ W $\pm 10\%$ PREC. Fixed	2 B
R607	1k Ω $\frac{1}{4}$ W $\pm 10\%$ PREC. Fixed	1 A
R608	1k Ω $\frac{1}{4}$ W $\pm 10\%$ PREC. Fixed	2 A
R609	220 Ω $\frac{1}{4}$ W $\pm 10\%$ PREC. Fixed	1 B
R610	220 Ω $\frac{1}{4}$ W $\pm 10\%$ PREC. Fixed	2 B
R611	270k Ω $\frac{1}{4}$ W $\pm 10\%$ PREC. Fixed	1 B
R612	270k Ω $\frac{1}{4}$ W $\pm 10\%$ PREC. Fixed	2 B
R613	5.6k Ω $\frac{1}{4}$ W $\pm 10\%$ PREC. Fixed	1 B
R614	5.6k Ω $\frac{1}{4}$ W $\pm 10\%$ PREC. Fixed	2 B
R615	820 Ω $\frac{1}{4}$ W $\pm 10\%$ PREC. Fixed	1 B, C

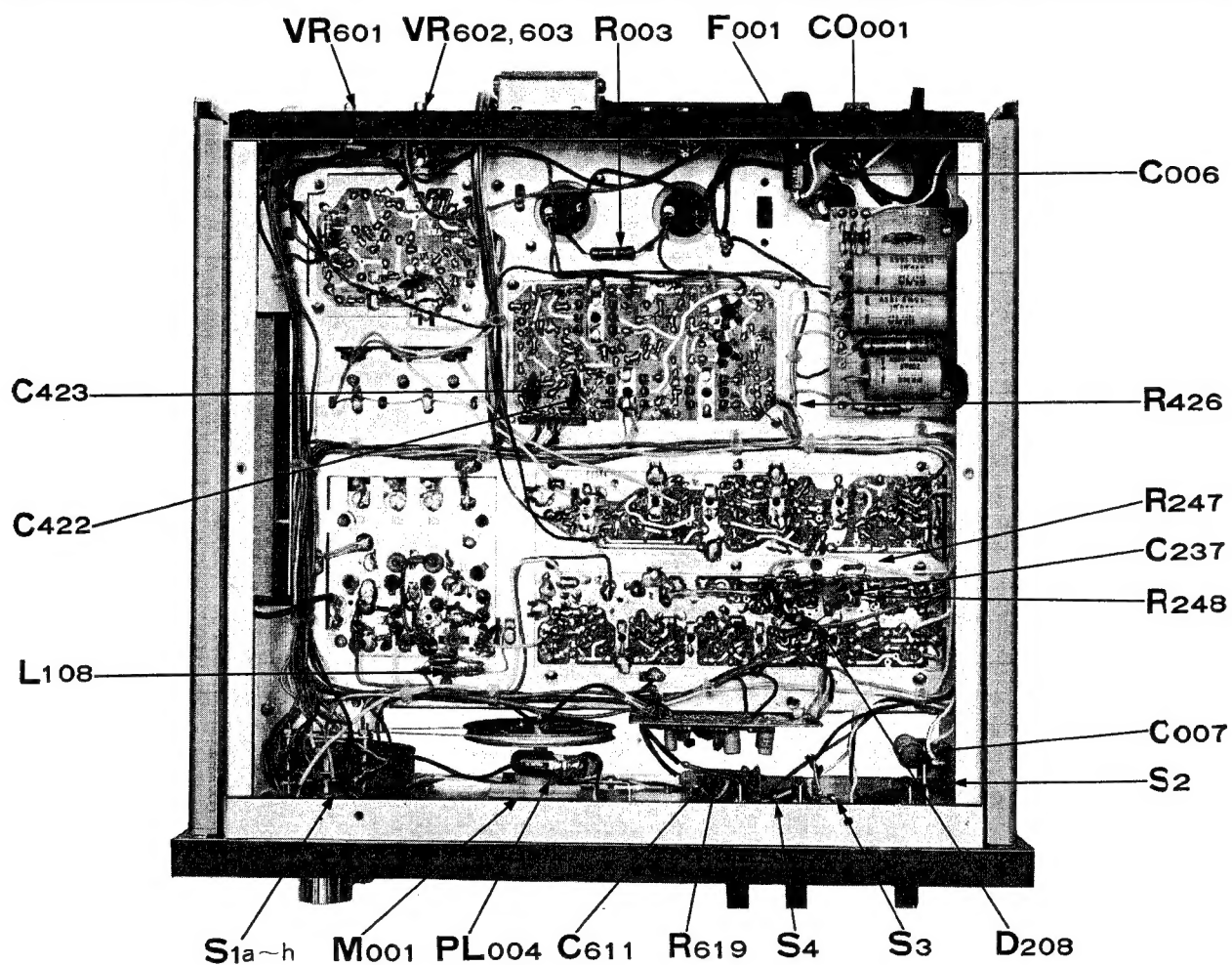
X	Y	Z
R616	820 Ω $\frac{1}{4}$ W $\pm 10\%$ PREC. Fixed	2 B, C
R617	22k Ω $\frac{1}{4}$ W $\pm 10\%$ PREC. Fixed	1 B, C
R618	22k Ω $\frac{1}{4}$ W $\pm 10\%$ PREC. Fixed	2 B, C
C601	1 μ F 15 WV ELECT.	1 A
C602	1 μ F 15 WV ELECT.	2 A
C603	100 pF $\pm 10\%$ 50 VDCW. CER.	1 A
C604	100 pF $\pm 10\%$ 50 VDCW. CER.	2 A
C605	100 pF $\pm 10\%$ 50 VDCW. CER.	1 B
C606	100 pF $\pm 10\%$ 50 VDCW. CER.	2 B
C607	30 μ F 6 WV ELECT.	1 C
C608	30 μ F 6 WV ELECT.	2 C
C609	10 μ F 25 WV ELECT.	1 B
C610	10 μ F 25 WV ELECT.	2 B
TR601	2SC693F Si N-P-N (030517-1)	1 A
TR602	2SC693F Si N-P-N (030517-1)	2 A
TR603	2SC536E Si N-P-N (030515-4)	1 B
TR604	2SC536E Si N-P-N (030515-4)	2 B



BLOCK DIAGRAM



OTHER PARTS & THEIR POSITION ON CHASSIS



X: Parts No
Y: Parts Name

X	Y
L107	300Ω : 75Ω FM ANT coil
L108	3.5μH FM RF coil (429001-1)
L301	AM Antenna coil (420001)
F1011	FM Frontend
T001	Power Transformer 400-5291B (400027-1)
VC301 ~303	AM 3-gang variable capacitor B-6369 GS-212 (120002)
M001	Tuning meter 100μA 1.2kΩ A-82
VR602	50kΩ(B) 16φ Level adjust (101501)
VR603	
VR601	
VR601	5kΩ(B) 16φ MPX separation adjustment (100501)
Slα~h	Y-3-B-4 Selector switch (110316)
S2	S221BM2A Power switch (117005)
S3	S221B122 Muting switch (117003)
S4	S221B122 NOISE CANCELER (117003)
S5	SL13-1-10H-622 Antenna switch (111004)
F001	Fuse 1A (043002)
CO001	AC Outlet MAX 150VA (245001)
R003	68Ω 1W ±10% Carbon Fixed Resistor
R116	820Ω ¼W ±10% Carbon Fixed Resistor
R117	68Ω ¼W ±10% Carbon Fixed Resistor
R247	2.2kΩ ¼W ±10% Carbon Fixed Resistor
R248	2.2kΩ ¼W ±10% Carbon Fixed Resistor
R422	1kΩ ¼W ±10% Carbon Fixed Resistor
R619	27kΩ ¼W ±10% Carbon Fixed Resistor
C006	0.0047μF 600WV ±10% Oil capacitor
C007	0.0033μF 600WV ±10% Oil capacitor
C128	0.02μF 50WV $\pm 100\%$ Ceramic capacitor
C237	0.02μF 50WV $\pm 100\%$ Ceramic capacitor
C238	0.02μF 50WV $\pm 100\%$ Ceramic capacitor
C422	0.05μF 50WV ±10% Mylar capacitor
C423	0.05μF 50WV ±10% Mylar capacitor
C611	200 pF 50WV ±10% Ceramic capacitor
C004	2000μF 35WV Electrolytic capacitor
C005	2000μF 35WV Electrolytic capacitor
D206	IN-60 Ge Diode
D207	IN-60 Ge Diode
D208	SV-02 Si Diode (031049)



SANSUI ELECTRIC COMPANY LIMITED

14-1, 2-chome, Izumi, Suginami-ku, Tokyo, Japan. TEL. 323-1111

(D:510M8)